

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-12 (Canceled).

Claim 13 (Currently Amended): A method of filtering an optical signal, comprising steps of:

coupling an optical signal having a plurality of wavelengths into an optical fiber; and selectively filtering at least one wavelength out of the plurality of wavelengths by varying a load applied to a compliant support block having at least a first portion of said optical fiber embedded therein, said varying the load causing said compliant support block to apply an axial strain and a radial strain upon said first portion of said optical fiber,

wherein said first portion of said optical fiber has a periodic variation in refractive index along at least a second portion thereof to form a fiber Bragg grating in said optical fiber.

Claim 14 (Original): A method of filtering an optical signal according to claim 13, wherein said varying said load applied to said compliant support block changes a transmission characteristic of said fiber Bragg grating.

Claim 15 (Original): A method of filtering an optical signal according to claim 13, wherein said compliant support block has a substantially cylindrical shape, and wherein said varying said load applied to said compliant support block comprises changing a compressional force applied between opposing ends of said compliant support block.

Claim 16 (Original): A method of filtering an optical signal according to claim 13, wherein said filtered optical signal is reflected from said fiber Bragg grating.

Claim 17 (Original): A method of filtering an optical signal according to claim 13, wherein said filtered optical signal is transmitted through said fiber Bragg grating.

Claims 18-23 (Canceled).

Claim 24 (Previously Presented): A method of filtering an optical signal according to claim 13, wherein said step of varying a load causes deformation of said compliant support block, such that a radial component of said compliant support block increases and decreases with respective increases and decreases of said load.

Claim 25 (Canceled).

Claim 26 (Currently Amended): A method of filtering an optical signal according to claim ~~25~~ 24, wherein said ~~step of varying a load includes pressing a rigid surface against said compliant support block, and wherein radial component defines an axis, and~~
an amount of the axial strain is dependent upon an ~~orientation of acute angle formed~~
between the axis and said optical fiber with respect to said rigid surface.

Claim 27 (Previously Presented): A method of filtering an optical signal according to claim 13, wherein said step of varying a load includes displacing a rigid surface contacting

said compliant support block, and wherein a relationship between a length of said at least one wavelength and a length of said displacement is substantially linear.

Claim 28 (Currently Amended): A method of filtering an optical signal, comprising steps of:

coupling an optical signal having a plurality of wavelengths into an optical fiber;
selectively reflecting at least a first wavelength out of said plurality of wavelengths by varying a load applied to a first compliant support block having at least a first portion of said optical fiber embedded therein, said varying the load causing said compliant support block to apply an axial strain and a radial strain upon said first portion of said optical fiber, said first portion having a periodic variation in refractive index along at least a portion thereof to form a first fiber Bragg grating in said optical fiber;

passing other wavelengths through the first fiber Bragg grating to a second portion of said optical fiber embedded in a second compliant support block, said second portion having a periodic variation in refractive index along at least a portion thereof to form a second fiber Bragg grating in said optical fiber;

selectively reflecting at least a second wavelength out of said other wavelengths by varying a load applied to said second compliant support block; and

forming a second optical signal of said first and second wavelengths.

Claim 29 (Previously Presented): The method of filtering an optical signal according to Claim 28, wherein said second optical signal is formed at a third portion of said optical fiber located before said first and second fiber Bragg gratings in a transmitting direction of said other wavelengths passed through said first fiber Bragg grating.

Claim 30 (Currently Amended): An apparatus for filtering an optical signal, comprising:
a coupler configured to couple an optical signal having a plurality of wavelengths into an optical fiber; and

means for selectively filtering at least one wavelength out of the plurality of wavelengths by varying a load applied to a compliant support block having at least a first portion of said optical fiber embedded therein, said varying the load causing said compliant support block to apply an axial strain and a radial strain upon said first portion of said optical fiber,

wherein said first portion of said optical fiber has a periodic variation in refractive index along at least a second portion thereof to form a fiber Bragg grating in said optical fiber.

Claim 31 (Currently Amended): An apparatus for filtering an optical signal, comprising ~~steps of~~:
a coupler configured to couple an optical signal having a plurality of wavelengths into an optical fiber;

means for

selectively reflecting at least a first wavelength out of said plurality of wavelengths by varying a load applied to a first compliant support block having at least a first portion of said optical fiber embedded therein, said varying the load causing said first compliant support block to apply an axial strain and a radial strain upon said first portion of said optical fiber, said first portion having a periodic variation in refractive index along at least a portion thereof to form a first fiber Bragg grating in said optical fiber, and

passing other wavelengths through the first fiber Bragg grating to a second portion of said optical fiber embedded in a second compliant support block, said second portion having a periodic variation in refractive index along at least a portion thereof to form a second fiber Bragg grating in said optical fiber;

means for selectively reflecting at least a second wavelength out of said other wavelengths by varying a load applied to said second compliant support block; and

a circulator configured to form a second optical signal of said first and second wavelengths and arranged at a third portion of said optical fiber located before said first and second fiber Bragg gratings in a transmitting direction of said other wavelengths passed through said first fiber Bragg grating.